IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:

CHASE A. HAFNER, ET AL.

Serial No.: 09/421,038

Filed: October 20, 1999

For: METHOD FOR MANAGING INFORMATION AND RENDERING DISCOUNTS

Attorney Docket No.: 1668 (USW 0535 PUS)

Group Art Unit: 3622

Examiner: Donald Champagne

APPEAL BRIEF UNDER 37 C.F.R. § 41.37

Mail Stop Appeal Brief - Patents
Commissioner for Patents
U.S. Patent & Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

This is an Appeal Brief in support of an appeal from the final rejection of claims 1-19 of the Office Action mailed on March 3, 2005 for the above-identified patent application.

I. REAL PARTY IN INTEREST

The real party in interest is Qwest Communications International Inc. US West, Inc. merged with Qwest Communications International Inc. The original assignment to US West, Inc. is recorded on reel/frame 010334/0877.

08/11/2005 HVUONG1 00000119 09421038
01 FC:1402   500.00 OP

II. RELATED APPEALS AND INTERFERENCES

There are no appeals or interferences known to the Appellants, the Appellants' legal representative, or the Assignee which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

III. STATUS OF CLAIMS

Claims 1-19 are pending in this application. Claims 1-19 have been rejected and are the subject of this appeal.

IV. STATUS OF AMENDMENTS

A response after final rejection was mailed on June 3, 2005. The response did not amend the claims.

V. SUMMARY OF CLAIMED SUBJECT MATTER

Appellants' invention relates to a method for managing information and rendering discounts in a billing system. Page 1, ll. 4-5. Customer bills are often adjusted by various discounts. In an existing method for rendering discounts, a complex application specific software package is developed to render discounts in a particular billing system having a highly defined structure. Page 1, ll. 13-15. The application specific software package is tailored to meet the needs of a single company for which the software package is developed. As such, in an existing method for rendering discounts, it is not feasible to change the way in which discounts are rendered very often because the software package is so application specific that it is sometimes necessary to develop an entire new application specific software package in order to revise the discount rendering technique. Page 1, ll. 13-24.

Appellants have recognized the problems associated with these existing complex application specific software packages developed for rendering discounts in billing systems. Appellants' claimed invention provides an improved method for managing information and

rendering discounts in a billing system that utilizes a rule-based engine configured to accumulate data and render discounts.

The invention as defined by independent claim 1 is generally exemplified by Figures 1 and 8. Claim 1 recites a method 320 for managing information and rendering discounts in a billing system. The method 320 comprises receiving 322 a customer record including data, establishing 324 a rule-based accumulation engine 14, and processing 326 the record. The record is processed with the accumulation engine 14 to accumulate the data in a plurality of predetermined target accumulators. The method 320 further comprises establishing 328 a rule-based discount engine 30, and processing 330 the plurality of target accumulators. The plurality of target accumulators are processed with the discount engine 30 to render discounts applicable to the customer. Page 2, ll. 8-15; p. 6, ll. 10-23; p. 26, ll. 18-25.

In more detail, as recited by claim 1, each rule-based engine includes a non-application specific, configurable system that processes input data to produce output data where the processing is dictated by a set of configurable rules. Further, it is worth noting that in claim 1, there are two of these engines that perform actions within the overall method. This more detailed aspect of the invention is exemplified in the specification.

Figure 2 illustrates accumulation engine 60, and general operation thereof is explained on p. 7, ll. 3-19. Detailed examples are described on pp. 8-21. As noted at p. 12, ll. 12-14, table updates rather than source code updates are allowed. This, in this embodiment, implements the feature of being non-application specific and configurable as opposed to application specific.

Figures 3-4 illustrate recursive processing performed by the discount engine. A general description of this can be found in the specification at p. 21, l. 20-p. 22, l. 5. A more detailed explanation is given at p. 22, l. 6-p. 23, l. 5.

In Figure 5, note separate rules components 162, 172, 174, 182, 188, 190. In Figure 6, note rule processing at elements 240, 242, 256, 262.

In summary, claim 1 recites a combination including two rule-based engines that are non-application specific and process data according to configurable rules. The specification illustrates embodiments of these recited features.

Independent claim 10 recites a discount system for managing information and rendering discounts in a billing system. The discount system 10 comprises a rule-based engine 12, 312 configured to receive a customer record 310 including data, process the record to accumulate the data in a plurality of predetermined target accumulators, and process the plurality of target accumulators to render discounts applicable to the customer 314. Page 3, ll. 13-19; p. 6, ll. 10-23; p. 26, ll. 5-17. Claim 10 also recites the feature of the engine including a non-application specific, configurable system where the processing is dictated by a set of configurable rules.

Independent claim 11 recites a computer readable storage medium having information stored thereon representing instructions executable by a computer to manage information and render discounts in a billing system. The computer readable storage medium further comprises instructions for receiving 322 a customer record including data, instructions for establishing 324 a rule-based accumulation engine 14, and instructions for processing 326 the record with the accumulation engine 14 to accumulate the data in a plurality of predetermined target accumulators. The medium further comprises instructions for establishing 328 a rule-based discount engine 30, and instructions for processing 330 the plurality of target accumulators with the discount engine 30 to render discounts applicable to the customer. Page 3, ll. 20-30; p. 26, l. 26 - p. 27, l. 4; p. 6, ll. 10-23; p. 26, ll. 18-25. Claim 11 also recites that each rule-based engine includes a non-application specific, configurable system where the processing is dictated by a set of configurable rules.

-4-

VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

The Examiner has rejected claims 1, 10 and 11 under 35 U.S.C. § 102(b) as being anticipated by, or, in the alternative, under 35 U.S.C. § 103(a) as obvious over Benyacar et al. (U.S. Patent No. 5,003,584).

The Examiner has rejected claims 1-4, 6-14 and 16-19 under 35 U.S.C. § 102(e) as being anticipated by Jagadish et al. (U.S. Patent No. 5,915,006).

The Examiner has rejected claims 5 and 15 under 35 U.S.C. § 103(a) as being obvious over Jagadish et al. (The Examiner referenced 35 U.S.C. 102(e), but the rejection is an obviousness rejection and is being stated here as a 35 U.S.C. 103(a) ground of rejection.)

VII. ARGUMENT

**A.   Claims 1, 10 and 11 Are Patentable Under
        35 U.S.C. § 102(b) Over U.S. Patent No. 5,003,584**

This application has previously been before the Board of Patent Appeals and Interferences. In the decision on the previous appeal, the Examiner's rejections of the claims on appeal were sustained when the terms "rule-based accumulation engine" and "rule-based discount engine" were interpreted to mean any processor which uses various rules to accumulate data and various rules to discount data.

However, in the Request for Continued Examination filed after the decision on the previous appeal, Appellants further amended each independent claim to better point out the invention and cover the invention that the Appellants intended to cover. The amendments made to the claims better define the rule-based engines. Specifically, as now recited by the claims, each rule-based engine includes a non-application specific, configurable system that processes input data to produce output data where the processing is dictated by a set of configurable rules. The preferred embodiment exemplifies these features.

Further, it is worth noting that in claim 1, there are two of these rule-based engines that perform actions within the overall method. The Examiner has dismissed these further limitations during the continued examination and maintains the same rejections made previously. Appellants believe that these further amendments to the claims restrict the broadest reasonable interpretation that can be given to the claims, and that the Examiner has not fully considered the amendments and their effects on the scope of the claims. Further, Appellants believe that the claims recite patentable subject matter.

Regarding Benyacar et al., this patent describes a method and apparatus for the billing of value added communication calls. The described method provides a sponsor realtime access to rate tables to specify call billing parameters needed to rate calls made to a sponsor number (such as a 900 number). A billing number is determined and validated and used to identify the party to receive a billing record for the call. A separate billing record is created for each call to the sponsor's number, which includes a sponsor specified charge as determined using the call billing parameters. As explained in column 10, lines 43-59, the caller's and the sponsor's bills are generated from the AMA billing record in a well-known manner (lines 43-45). That is, although Benyacar et al. mentions an AMA billing record and a telephone bill, there is no description or suggestion of the specific discount rendering method recited by independent claim 1, including the combination of limitations now recited that includes the more detailed engine aspects.

Claim 1 recites a method that utilizes two different rule-based engines to manage information and render discounts in a billing system. Claim 1 further recites further limitations to particularly point out details of these rule-based engines.

Benyacar et al. mentions billing records, but fails to describe or suggest the method recited by independent claim 1. The Examiner has not given full consideration to the amendments made with the Request for Continued Examination.

-6-

The Examiner simply states that Benyacar et al. reads on establishing both a rule-based accumulation engine and a rule-based discount engine. The Examiner makes reference to SCI, DDI, and ASI (col. 10, ll. 22-27) and other carrier switch network arrangements (col. 5, ll. 60-62). These aspects of Benyacar et al. fail to suggest the specifically claimed features of the current pending claims.

As amended, claim 1 recites more than simply rendering discounts according to rules. In its current form, claim 1 recites specific details of each rule-based engine. The claim 1 method recites a specific process involving a number of actions including utilization of both engines. While Benyacar et al. only describes a particular billing method which could involve certain activities in billing, there is no suggestion of the particular method of claim 1 for utilizing the two rule-based engines including the specific features now recited by claim 1.

Regarding column 5, lines 60-62, this portion of Benyacar et al. is only noting that Benyacar et al. is not limited to the AT&T carrier switch network (CSN) and that Benyacar et al.'s invention could be adopted to operate with other carrier switch networks. That is, Benyacar et al. mentions that it is possible to use alternative carrier switch networks. This has nothing to do with rule-based engines and fails to suggest the utilization of two rule-based engines with the particular details now recited by claim 1.

Regarding column 10, lines 22-27, this portion of Benyacar et al. only mentions various parameters that could be sent to the billing system in the AMA record. The possibility of sending various parameters to the billing system has nothing to do with providing rule-based engines with the specific features recited by the claims.

Benyacar et al. fails to specifically describe or suggest the claimed invention as recited in independent claim 1 as now amended. The previous rejections made by the

Examiner ride on the Examiner's previous broadest interpretation of the rule-based engine features. The claims have been amended to better point out the invention and limit the reasonable scope of these claims. Nothing in Benyacar et al. suggests the use of a rule-based non-application specific, configurable system where processing is dictated by a set of configurable rules. The Examiner has, for the most part, restated the old rejections without acknowledging these new claim limitations. After all, the ability to use different carrier switch networks does nothing to suggest the particular features added to the independent claims. As well, the fact that various parameters could be sent to the billing system in the AMA record does not suggest a specific method for managing information and rendering discounts involving rule-based engines with the further limitations recited by the independent claims.

Applicants contend that the Benyacar et al. system is application specific, is not a configurable system, and does not involve processing dictated by configurable rules as recited in the claims. After all, Benyacar et al. specifically describes the use of AMA billing records and does not mention, or at least the Examiner does not point out, any suggestion of certain management and discounting techniques. The only reason that the Examiner was able to make the previous rejection is because the Examiner resorted to giving the claims a very broad meaning and then went on to reject them based on Benyacar et al.

Now, Applicants have restricted the meaning of the claims and the Examiner must point out specific teachings in the prior art of the newly added claim limitations and also must point out a suggestion or motivation in the prior art to combine those with other teachings in the prior art to achieve the claimed invention. The Examiner has not done this and claim 1 is believed to be patentable.

Claim 10 is an independent claim reciting a discount system for managing information and rendering discounts in a billing system. The discount system comprises a rule-based engine configured to receive a customer record, including data, process the record to

accumulate the data in a plurality of predetermined target accumulators, and process the plurality of target accumulators to render discounts applicable to the customer. As explained above with respect to claim 1, the relied upon references fail to describe or suggest the rule-based engine in a discount system for managing information and rendering discounts in a billing system. As such, independent claim 10 as now amended is also believed to be patentable. Independent claim 11 recites computer-readable storage media and is believed to be patentable for similar reasons as those given above with respect to claim 1. Claims 2-9, and 12-19 are dependent claims and are also believed to be patentable.

B.   Claims 1-4, 6-14 and 16-19 Are Patentable Under 35 U.S.C. § 102(e) Over U.S. Patent No. 5,915,006

Regarding Jagadish et al., Jagadish et al. describes telephone aggregated billing. This patent does describe a method and system in which calls made on two or more phone lines of a customer are aggregated for billing and discount billing plans to which the customer subscribes are applied to the aggregated phone usage of the customer. In column 4, lines 35-49, Jagadish et al. mentions applying customer specific parameters to a call, and using automatic number identification (ANI) to determine the identity of the party who initiated the call. However, Applicants point out that the independent claims recite specific methods for managing information and rendering discounts in a billing system that are not described or suggested by Jagadish et al.

The Examiner has not shown any teaching in the prior art of the particular features added by amendment to these claims, let alone shown a motivation or suggestion to combine these features and other features to achieve the claimed invention.

The Examiner has made reference to dictionaries in an attempt to broadly interpret the latest limitations of the claims. These limitations are meaningful and cannot be summarily dismissed by the Examiner. The claims recite more than the fact that something

U.S.S.N. 09/421,038   Atty. Docket No. 1668 (USW 0535 PUS)

is configured. The claims specifically recite rule-based engines, including non-application specific, configurable systems to process data where the processing is dictated by a set of configurable rules. That is, the rules are configurable, the system is configurable, and as well, the system is not application specific. The relied upon references fail to suggest the flexibility provided by the claimed invention through the utilization of the rule-based engines.

C.   Claims 5 and 15 Are Patentable Under
35 U.S.C. § 103(a) Over U.S. Patent No. 5,915,006

Claims 5 and 15 are dependent claims and are also believed to be patentable.

The fee of $500 as applicable under the provisions of 37 C.F.R. § 41.20(b)(2) is enclosed. Please charge any additional fee or credit any overpayment in connection with this filing to our Deposit Account No. 02-3978.

Respectfully submitted,

CHASE A. HAFNER

By:_____
Jeremy J. Concuri
Registration No. 42,454
Attorney for Applicant

Date: <u>August 8, 2005</u>

BROOKS KUSHMAN P.C.
1000 Town Center, 22nd Floor
Southfield, MI 48075-1238
Phone: 248-358-4400
Fax: 248-358-3351

Enclosure - Appendices

VIII. CLAIMS APPENDIX

1. A method for managing information and rendering discounts in a billing system, the method comprising:

receiving a customer record including data;

establishing a rule-based accumulation engine including a non-application specific, configurable, system that processes input data to produce output data where the processing is dictated by a set of configurable rules;

processing the record with the accumulation engine to accumulate the data in a plurality of predetermined target accumulators;

establishing a rule-based discount engine including a non-application specific, configurable, system that processes input data to produce output data where the processing is dictated by a set of configurable rules; and

processing the plurality of target accumulators with the discount engine to render discounts applicable to the customer.

2. The method of claim 1 wherein the record has a record type and wherein establishing the accumulation engine further comprises:

establishing a rules table that directs the accumulation engine based on the record type.

3. The method of claim 2 wherein establishing the accumulation engine further comprises:

establishing at least one rule for processing a record by performing a sequence of operations to the data, wherein the rules table directs the accumulation engine to apply the at least one rule when dictated by the record type.

4. The method of claim 3 wherein establishing the accumulation engine further comprises:

establishing at least one function for processing a record, wherein the rules table directs the accumulation engine to apply the at least one function when dictated by the record type.

5. The method of claim 3 wherein the rules table directs the accumulation engine to pass the data directly to a target accumulator when dictated by the record type.

6. The method of claim 1 wherein the record includes at least one source field, and wherein receiving the record further comprises:

assigning a logical name to a source field, wherein the accumulation engine processes the record using the logical name.

7. The method of claim 1 wherein establishing the discount engine further comprises:

establishing at least one rule for processing the record to evaluate discount qualification; and

establishing at least one rule for processing the record to evaluate discount application.

8. The method of claim 1 wherein establishing the discount engine further comprises:

establishing at least one simple rule for processing the record.

9. The method of claim 8 wherein establishing the discount engine further comprises:

establishing at least one compound rule for processing the record, the at least one compound rule being composed of a plurality of simple rules, wherein the discount engine applies a compound rule by recursively applying simple rules.

10. A discount system for managing information and rendering discounts in a billing system, the discount system comprising:

a rule-based engine including a non-application specific, configurable, system that processes input data to produce output data where the processing is dictated by a set of configurable rules configured to receive a customer record including data, process the record to accumulate the data in a plurality of predetermined target accumulators, process the plurality of target accumulators to render discounts applicable to the customer.

11. A computer readable storage medium having information stored thereon representing instructions executable by a computer to manage information and render discounts in a billing system, the computer readable storage medium further comprising:

instructions for receiving a customer record including data;

instructions for establishing a rule-based accumulation engine including a non-application specific, configurable, system that processes input data to produce output data where the processing is dictated by a set of configurable rules;

instructions for processing the record with the accumulation engine to accumulate the data in a plurality of predetermined target accumulators;

instructions for establishing a rule-based discount engine including a non-application specific, configurable, system that processes input data to produce output data where the processing is dictated by a set of configurable rules; and

instructions for processing the plurality of target accumulators with the discount engine to render discounts applicable to the customer.

12. The medium of claim 11 wherein the record has a record type and wherein the medium further comprises:

instructions for establishing a rules table that directs the accumulation engine based on the record type.

13. The medium of claim 12 further comprising:

instructions for establishing at least one rule for processing a record by performing a sequence of operations to the data, wherein the rules table directs the accumulation engine to apply the at least one rule when dictated by the record type.

14. The medium of claim 13 further comprising:

instructions for establishing at least one function for processing a record, wherein the rules table directs the accumulation engine to apply the at least one function when dictated by the record type.

15. The medium of claim 13 wherein the rules table directs the accumulation engine to pass the data directly to a target accumulator when dictated by the record type.

16. The medium of claim 11 wherein the record includes at least one source field, and wherein the medium further comprises:

instructions for assigning a logical name to a source field, wherein the accumulation engine processes the record using the logical name.

17. The medium of claim 11 further comprising:

instructions for establishing at least one rule for processing the record to evaluate discount qualification; and

instructions for establishing at least one rule for processing the record to evaluate discount application.

18. The medium of claim 11 further comprising:

instructions for establishing at least one simple rule for processing the record.

19. The medium of claim 18 further comprising:

instructions for establishing at least one compound rule for processing the record, the at least one compound rule being composed of a plurality of simple rules, wherein the discount engine applies a compound rule by recursively applying simple rules.

IX. <u>EVIDENCE APPENDIX</u>

None.

X. RELATED PROCEEDINGS APPENDIX

None.